Understanding 400 Day Weight EBVs

Within the Australian commercial beef industry, the major determinant of the price received for an animal is live weight. Consequently, in most economic analyses, positive emphasis on increasing live weight is warranted, with higher live weights leading to higher profitability.

BREEDPLAN currently calculates four EBVs related to live weight – 200 Day Growth, 400 Day Weight, 600 Day Weight and Mature Cow Weight. These EBVs provide a prediction of the animal's ability to grow to 6-7 months of age (ie. 200 Day Growth), 13-14 months of age (ie. 400 Day Weight), 20-22 months (600 Day Weight) and maturity (Mature Cow Weight).

Interpreting 400 Day Weight EBVs

400 Day Weight EBVs are estimates of the genetic differences between animals in live weight at 400 days of age. 400 Day Weight EBVs are expressed in kilograms (kg).

This EBV is an important trait for breeders turning off animals as yearlings. Larger, more positive, 400 Day Weight EBVs are generally more favourable. For example, a bull with a 400 Day Weight EBV of +50 kg would be expected to produce heavier calves at 400 days of age (13-14 months) compared to a bull with a 400 Day Weight EBV of +30 kg.

Of course, it is important to consider that selection on increased growth alone may result in changes to other economically important traits that may indirectly affect profitability. For example, selection for animals with increased 400 Day Weight may result in an increase in birth weights and subsequently more calving difficulty, or alternatively an increase in 400 Day Weight may increase the mature weights of your female cow herd, resulting in higher feed costs.

Recording Information for the 400 Day Weight EBV

The 400 Day Weight EBVs are calculated from the live weight performance of animals when they are between 301 and 500 days of age.

While most stud producers will be reasonably comfortable with how to record the live weights of their animals, there are a number of important considerations that should be made in order to maximise the effectiveness of the live weights that are recorded.

- Weights should be recorded to the nearest kilogram.
- Calves do not need to be weighed when they are all exactly 400 days of age. Breeders should choose a weighing date that fits in with their management and is reasonably close to when the average age of the group of calves is approximately 400 days old. BREEDPLAN provides suggested weigh dates to assist you when making this decision.
BREEDPLAN can analyse up to two 400 day weights on each animal. Generally speaking, it is only necessary to record one weight, however in some circumstances, recording more than one weight will improve the accuracy of the 400 Day Weight EBVs.

A management group should be entered for any calf or group of calves that have either been treated differently or exposed to significant non-genetic influences since weighing at 200 days. For example, calves given a supplement should be recorded in a different group to those without a supplement. Consideration should also be given to variations in pasture quality, stocking rates, water quality, animal health, injury etc. Note that blank is a unique management group.

To ensure the maximum number of calves are analysed in the same management group, you should try to weigh all the animals from one management group on the same day. BREEDPLAN will automatically split your management groups if you weigh on different days.

Ideally, calves should be weighed when they are in as large a group as possible. Consequently, try to weigh calves before any of the calves in the management group are treated differently. For example, weigh before you select heifers or bulls for joining as yearlings or before the show team is separated out from the rest of the group.

Live weight information should be submitted directly to the BREEDPLAN office at ABRI.

The main method of submitting live weight information is by completing the BREEDPLAN “performance recording forms”. Performance recording forms will be sent to you shortly after you record your calves with your Breed Society or can be requested by contacting staff at BREEDPLAN.

Alternatively, live weight information can be submitted electronically via either:
- a BREEDPLAN compatible herd recording computer program
- the performance submission facility offered on some Breed Society websites
- the BREEDPLAN compatible Microsoft Excel template.

For more information regarding 400 Day Weight EBVs, please contact staff at BREEDPLAN.